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ABSTRACT

The fact sheet provides basic information about how alcohol and drug use during pregnancy can lead to Fetal Alcohol Syndrome (FAS) and Alcohol Related Birth Defects (ARBD), resulting in such problems as mental retardation, sleep disturbances, learning disabilities, muscle problems, heart defects, and small head size. The question and answer format provides information on: What is meant in warnings to pregnant women not to drink alcohol? What kind of damage can occur to the fetus from alcohol consumption by the mother? Is there a safe amount of alcohol that a pregnant woman can drink? How common are FAS and ARBD? What are the problems of children born with these disorders? Can FAS be treated? How can FAS be prevented? Why is it especially important to educate young people about FAS and ARBD? What about prescription and non-prescription drugs; can they cause birth defects similar to FAS? (DB)

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FACTS ABOUT ALCOHOL AND OTHER DRUG USE DURING PREGNANCY

What is meant in warnings to pregnant women not to drink alcohol?

Research has shown that even small levels of alcohol consumed during pregnancy may affect the fetus in damaging ways. In pregnant women, alcohol is not only carried to all organs and tissues, but also to the placenta, where it easily crosses through the membrane separating maternal and fetal blood systems. In this way, alcohol is transported directly to the fetus and to all its developing tissues and organs.

When a pregnant woman drinks an alcoholic beverage, the concentration of alcohol in her unborn baby's bloodstream is the same level as her own. Unlike the mother, however, the liver of a fetus cannot process alcohol at the same adult's rate of one ounce every two hours. High concentrations of alcohol, therefore, stay in the fetus longer, often for up to 24 hours. In fact, the unborn baby's blood alcohol concentration is even higher than the mother's during the second and third hour after a drink is consumed.

What kind of damage can occur to the fetus from alcohol consumption by the mother?

There are two degrees of damage that can occur. The most severe is Fetal Alcohol Syndrome (FAS). The Fetal Alcohol Syndrome Study Group of the National Council on Alcoholism outlines minimal criteria for the diagnosis of FAS as being, "evidence of abnormalities in three specific areas: growth, central nervous system functions and facial characteristics."

Alcohol-Related Birth Defects (ARBD) include less severe birth defects in the same areas. In both FAS and ARBD, birth defects are caused when a woman drinks alcohol during pregnancy. FAS and ARBD form the single largest class of birth defects that are 100 percent preventable.

Is there a safe amount of alcohol that a pregnant woman can drink?

No. A safe level of alcohol consumption for pregnant women has not been established. Although alcohol consumption at any time during pregnancy is potentially harmful to the fetus, timing and duration of exposure can be related to the type of damage likely to occur. Early exposure presents the greatest risk for serious physical defects, and later exposure increases the chances of neurological and growth deficiencies or miscarriage.

- **The First Trimester** — This appears to be the most critical time when abnormal features can be caused. Alcohol may affect the way cells grow and arrange themselves as they multiply, altering tissue growth in the part of the fetus that is developing at the time of exposure. The brain is particularly sensitive to alcohol which diminishes the number of cells growing in the brain. Consequently, the brain is smaller and often its neurons are found in the wrong places. The early loss of cells in the developing fetus may help explain overall retarded growth and low birth weight in babies with FAS.
- **Second Trimester** — Miscarriage is a major risk during this time. There may be times of fetal distress related to binge drinking (irregular periods of heavy drinking).
- **Third Trimester** — During this period the fetus normally undergoes rapid and substantial growth. Alcohol can impair this growth. This is also the time of greatest brain development. Research with animals indicates the brain and central nervous system are at greatest risk during the third trimester.

How common are FAS and ARBD?

Full-blown FAS occurs in an estimated one out of every 750 live births. Less severe ARBD occurs in approximately 10 to 12 live births out of 1,000 (36,000 babies per year). Among known alcohol-abusing women, however, FAS occurs in 30 percent of recorded live births.

What are the problems of children born with these disorders?

Typically, children born with FAS and ARBD have the following symptoms:

- Low birth weight and failure throughout their lives to catch up to their peers in physical growth.
- Head:
  - Small head size
  - Narrow eye slits
  - Flat midface
  - Low nasal ridge
  - Loss of groove between nose and upper lip
- Central nervous system:
  - Mental retardation
  - Alcohol withdrawal at birth
  - Poor sucking response
  - Sleep disturbances
  - Restlessness and irritability
  - Developmental delays
  - Short attention span
  - Learning disabilities
- Organs and body parts:
  - Muscle problems
  - Bone and joint problems
  - Genital defects
  - Heart defects
  - Kidney defects

Can FAS be treated?

Birth defects related to alcohol use are permanent. Surgery can repair some of the physical problems, and schools and day care centers offer programs to improve mental and physical development. However, children born with FAS remain below average in physical and mental development throughout their lives.

How can FAS be prevented?

Recent studies have shown that pregnant women will reduce or cease their alcohol intake if they are made aware of

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the harmful effects of alcohol on their babies. However, the most critical period for the fetus is in the first trimester when the mother may not even suspect she is pregnant. For such women, an early warning system is imperative.

A public education campaign for youth, who are tomorrow's parents, is one prevention strategy. The ARC has produced a set of curriculum materials especially for educating young people about FAS and ARBD. The materials consist of teacher's and student's texts, a community project book and a cartoon booklet and are ideal for use with high school students, church youth groups, civic organizations, seminar audiences and others.

A set of the materials (one copy of each) costs $9.50. Quantity costs of the student's booklets and additional details about the curriculum can be obtained by calling the Publications Desk at ARC National Headquarters.

Yet another strategy for public education is to require warning labels on alcoholic beverages. A bill introduced in 1988 in the U.S. Senate states the belief that "warning labels on the containers of alcoholic beverages concerning the effects on the health of individuals resulting from the consumption of such beverages would assist in providing such education." Of the five different warning statements proposed, one refers to alcohol and pregnancy: "Warning: The Surgeon General has determined that the consumption of this product, which contains alcohol, during pregnancy can cause mental retardation and other birth defects."

Why is it especially important to educate young people about FAS and ARBD?

There are rising numbers of teen pregnancies and teens who use alcohol.

Statistics illustrate the problems: According to McDonald's Corporation, the average age of beginning alcohol use is 12.5. The National Council on Alcoholism has said that nearly 100,000 ten- and 11-year olds get drunk at least once a week.

The 1985 Statistical Abstract developed by the U.S. Department of Commerce showed there were 239,000 pregnancies of girls between the ages of 14 and 18.

Given the estimates of the incidence of FAS and ARBD, more than 3,300 babies, born to teenagers, might be affected by FAS or ARBD in one year.

What about prescription and non-prescription drugs; can they cause birth defects similar to FAS?

Different drugs have different effects. In some cases the risk is clear-cut. Valium, Librium and Miltown have carried labels since 1976 warning they may be dangerous if used during the first three months of pregnancy. Studies indicated an increased incidence of cleft palate, heart defects and nervous system defects in children born to women who had taken those tranquilizers, while pregnant.

The anti-acne drug Accutane is receiving considerable attention for its reported links to birth defects. Despite warnings by the manufacturer, government scientists estimated in April 1988 that 900-1,300 babies have been born with severe birth defects because of their mothers' use of the drug.

About the same time, experts warned that Tegison, a drug used to treat the chronic skin disease psoriasis is probably even more likely to produce birth defects than Accutane. The drug can remain dormant in body tissue for years after it is taken and can cause birth defects long after a woman stops taking it.

Even aspirin, a commonly-used yet potent drug, has been linked to excessive bleeding during childbirth and should be avoided during the last three months of pregnancy. Newborns in this instance also are more likely to bleed at childbirth.

In general, any drug that has an effect on an adult may affect a pregnant woman's fetus because, like alcohol, the drug crosses to the fetus through the placenta.

Many drug labels carry warnings to pregnant women, but the best rule of thumb is for a pregnant woman to consult with her physician before taking any drug at all.